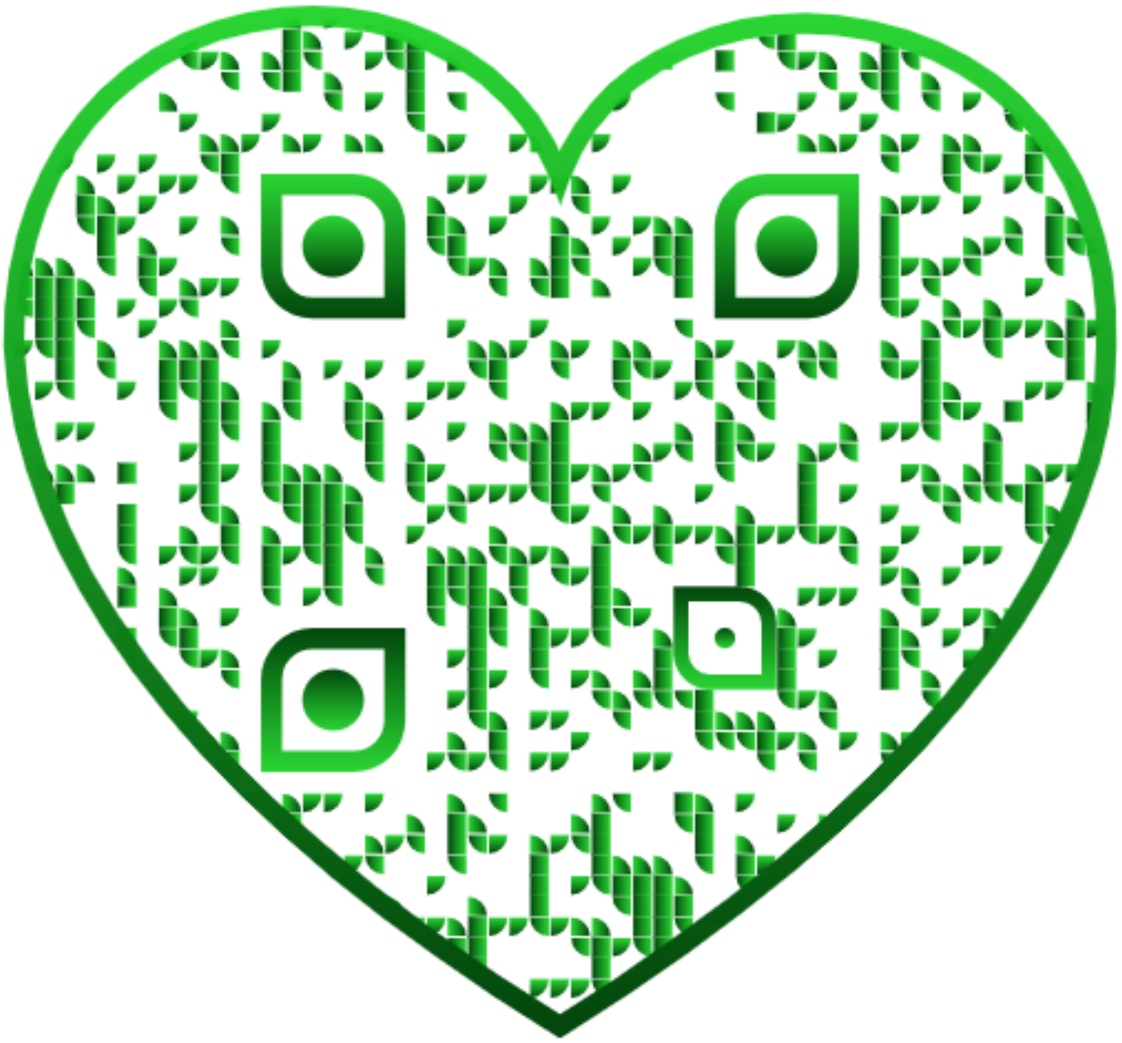
Pharmaceutical Supply Chain Management (Phar 5212)

Sisay E.



Chapter 1: Introduction

Chapter Objectives

- After completion of this chapter students are able to;
  - Describe national drug policy (NDP)
  - Identify the core objectives and key strategies of NDP
  - Explain the development and implementation of NDP
  - Explain concept of essential medicine
  - Describe formulary process
  - Discuss Pharmaceutical Sector Transformation Plan of Ethiopia

National Drug Policy (NDP)

- It is political commitment to a goal and guide for action
- It expresses and prioritizes the medium to long-term **goals** set by the government for the pharmaceutical sector, and identifies the main **strategies** for attaining them.
- It provides a **framework** within which the activities of the pharmaceutical sector can be coordinated

National Drug Policy….

- NDP covers both the **public** and the **private** sectors, and involves **all the main actors** in the pharmaceutical field
- NDP is the guiding policy for the pharmaceutical sector
- NDP is an essential part of health policy

Why is NDP needed?

- NDP needed for many reasons
  - To present a **formal** record of values, aspirations, aims, decisions and medium to long-term government commitments;
  - To define the **national goals and objectives** for the pharmaceutical sector, and set **priorities**;
  - To **identify the strategies** needed to meet those objectives, and identify the various **actors** responsible for implementing the main components of the policy;
  - To **create a forum** for national discussions on these issues.

Goals and Objectives of NDP

- The general health related objectives of NDP are to ensure;
  - **Access**: equitable availability & affordability of essential drugs
  - **Quality**: the quality, safety and efficacy of all medicines
  - **Rational use**: the promotion of therapeutically sound and cost-effective use of drugs by health professionals and consumers

Objectives of NDP…

- Other Goals of NDP
  - **Economic related goals**
    - To **reduce foreign exchange** for pharmaceutical import
    - To provide **jobs** (dispensing, pre-packaging, production of pharmaceuticals)
  - **National development goal**
    - Develop national pharmaceutical production
    - To take a stand on intellectual property rights

Objectives of NDP…

- The more **specific goals and objectives** of a NDP may vary from country to country depending on;
  - Structure of health care system
  - Capacity of drug regulating authority
  - Pharmaceutical distribution system
  - The level of **funding** of pharmaceuticals
  - The country situation
  - The national health policy
  - Political **priorities** set by the government

Example: Objectives of Ethiopian NDP

- To **meet** the country's demand for **essential drugs** and to **systematize** its supply, distribution and use.
- To create conducive situations to make the **prices** of drugs compatible with the people's purchasing power.
- To ensure the **safety**, **efficacy** and **quality** of drugs.
- To **develop domestic drug manufacturing** capacity and gradual supply to the **export** market.
- To **expand** the **training of manpower** and drugs research and development.
- To devise ways and means for the utilization of **traditional drugs** in the regular health services after ensuring their safety and efficacy.

Key Components of NDP

- NDP is a comprehensive framework in which each component plays an essential role in achieving one or more of the general objectives:
  - ***Access, quality and rational use***
- The policy should balance the various goals and objectives, creating a complete and consistent entity
  - **For example:** Access to essential drugs can only be achieved through ***rational selection, affordable prices, sustainable financing*** and ***reliable health and supply systems***

Key Components of NDP…

Components of a national drug policy, linked to key policy objectives

Components: \ Objectives:	Access	Quality	Rational use
Selection of essential drugs	X	(X)	X
Affordability	X		
Drug financing	X		
Supply systems	X		(X)
Regulation and quality assurance		X	X
Rational use			X
Research	X	X	X
Human resources	X	X	X
Monitoring and evaluation	X	X	X

X = direct link; (X) = indirect link

Key Components of NDP…

- **Selection of essential drugs**
  - Adoption of the essential drugs concept
  - Selection criteria: Sound and adequate evidence, cost effectiveness
  - Procedures to define and update the national list(s) of essential drugs
  - Selection mechanisms for traditional and herbal medicines

Components of NDP…

- **Affordability**
  - Affordable process are an important prerequisite for ensuring access to essential medicine in the public and private sector
  - Key policy issue:
  - Government commitment to ensuring access through increased affordability
    - **For all drugs**: reduction of drug **taxes, tariffs** and distribution margins; **pricing policy**;

Components of NDP…

- **For multi-source products:**
  - Promotion of **competition**
  - **generic** policies, generic substitution and good procurement practices;
- **For single-source products:**
  - Price **negotiations**
  - **Therapeutic substitution**
  - **Trips-compliant** measures such as **compulsory licensing, "early workings**" of patented drugs for generic manufacturers and **parallel imports**

Components of NDP…

- **Drug financing**
  - **Key policy issues:**
    - **Commitment** to measures, to improve **efficiency** and reduce **waste**
    - Increased government **funding** for priority diseases, and the poor and disadvantaged
    - **Promotion** of **drug reimbursement** as part of public and private health insurance schemes
    - Use and scope of **user charges** as a temporary drug financing option
    - Use of and limits of development **loans** for drug financing
    - **Guidelines** for drug **donations**

Components of NDP…

- **Supply systems**
  - **Key policy issues:**
    - **Public–private** mix in drug supply and distribution systems;
    - Commitment to good pharmaceutical procurement practices in the public sector
    - **Publication** of price information on raw materials and finished products
    - Drug supply systems in **acute emergencies**
    - **Inventory** control, and prevention of **theft** and waste
    - **Disposal** of **unwanted** or **expired** drugs

Components of NDP…

- **Legislative and Regulatory framework**
  - **Government commitment** to drug regulation, including the need to ensure a sound **legal basis** and **adequate human** and **financial** resources;
  - **Independence** and **transparency** of the drug regulatory agency; relations with MoH
  - Functioning drug regulatory authority
  - **Stepwise approach** to **drug evaluation** and registration

Components of NDP…

- **Regulation and Pharmaceutical quality assurance**
  - Inspection and enforcement
  - **Commitment** to **GMP**, inspection and law enforcement
  - **Access** to **drug control facilities**
  - Commitment to **regulation** of drug **promotion**
  - **Regulation** of **traditional** and herbal medicines
  - Need and potential for **systems** of **ADR** monitoring
  - **International** exchange of information

Components of NDP…

- **Rational use of medicnes**
  - **Development** of **evidence-based** clinical **guidelines**, as the **basis** for **training**, **prescribing**, drug utilization **review**, drug **supply** and drug **reimbursement**;
  - **Establishment** and support of **DTC**;
  - **Promotion** of the concepts of essential drugs, rational drug use and generic prescribing in basic and in-service training of health professionals
  - The need and potential for **training informal** drug sellers;
  - **Continuing education** of health care providers
  - Independent, **unbiased** drug information
  - **Consumer** education, and ways to deliver it;
    – **financial** incentives to promote rational drug use;
    – regulatory and managerial strategies to promote rational drug use

Components of NDP…

- **Research**
  - Identify problems related to prescribing, dispensing
  - **Key policy issues:**
    - **Operational** research in drug access, quality and rational use
    - The need and potential for involvement in pharmaceutical development and clinical research

Components of NDP…

- **Human resources development**
  - **G**overnment responsibility for planning and overseeing the development and **training** of the **human resources** needed for the pharmaceutical sector;
  - Definition of **minimum** education and **training** requirements for each category of staff;
  - Career planning and team building in government service;
  - The need for **external assistance** (national and international)

Components of NDP…

- **Monitoring and Evaluation**
  - Explicit government commitment to the principles of monitoring and evaluation;
  - **Monitoring** of the pharmaceutical sector through regular indicator-based surveys;
  - **Independent external evaluation** of the impact of the NDP on all sectors of the community and the economy.

How to develop the NDP?

- **Overview of the NDP process**

  – a complex process of development, implementation & monitoring

  – Throughout the process: careful **planning, involvement** of all parties and **political** dynamics

- **Planning**

  – A drug policy without an implementation plan remains a dead document.

  - **strategic** plan/master plan: e.g to develop the policy itself
    - covers a 3–5-year period
  - **Annual** work plans

How to develop the NDP?

- **Involving all parties;**

  – **Consultation**, dialogue and negotiations with all interested groups and stakeholders throughout the policy process.

  – **Stakeholders**

  • Ministries (education, trade, industry, health)

  • Health care professionals ,

  • Pharmaceutical industries (local and international)

  • Drug sellers, academia, NGOs,

  • Professional associations

  • Consumer groups,

  • Traditional and herbal medicine practitioners,

  • Drug regulatory agency

  • Insurance companies

- **Media** and support from **international**

Formulating NDP

- **Step 1: Organize the policy process**
  - MOH + small committee of selected experts.
  - decide how to organize the development process
    - identify the structure of the policy
    - major objectives
    - priority components.
    - all interested parties
    - necessary resources and how these can be obtained
- **Step 2: Identify the main problems**
  - Situation analysis
    - to understand the **main** problems in the pharmaceutical sector and set realistic objectives

Formulating NDP…

- **Step 3: Make a detailed situation analysis**
  - to further analyze the **source** of the problems,
  - identify potential **solutions**
  - choose the most appropriate **strategies**
  - set **priorities**
  - serve as a **baseline** for future systems of M and E
- **Step 4: Set goals and objectives for a NDP**
  - Identify the main problems and then set goals and prioritize objectives
- **Step 5: Draft the text of the policy**

Formulating NDP…

- **Step 6: Circulate and revise the draft policy**
  - MoH, other gov't ministries and departments
  - relevant institutions and organizations outside the government
  - revise the draft document based on the received comments and finalized
- **Step 7: Secure formal endorsement of the policy**
  - Demonstration of political commitment but it can also cause problems, as future adjustments to the policy may become difficult.

Formulating NDP….

- **Step 8: Launch the NDP**
  - promote the policy through a clear and well-designed information campaign.
  - Public endorsement by respected experts and opinion leaders.
  -

Implementing a NDP

- Policy without implementation is worthless
- NDP needs;
  - implementation plan or "master plan"
  - detailed strategy and
  - specific action plans
- **Priorities for implementation**
  - Priorities should be;
    - based on the **severity** of the problems
    - on **the potential for success** in achieving the objective
    - making an **impact** with available resources

Implementing a NDP…

- **Master plan and work plans**
- Implementation plan or master plan cover a 3–5-year period.
- The master plan should be broken down into
  - annual action plans and work plans
  - specify in detail who is responsible,
  - listing the major tasks,
  - describing the target output, the detailed time frame and the exact budget

Implementing a NDP…

- **Responsibilities in implementation**

  – The ministry of health or a separate unit within the ministry should oversee and coordinate all activities, and monitor the extent of implementation and the achievement of targets

- ***Creating a national consultative forum***

  – To oversee policy implementation.

  – To maintain countrywide support for the policy

  – To ensure that the major stakeholders remain informed and involved.

- ***Financial resources***

  – Actively seeking funds and be able to secure regular funding from the government, international and local donors.

  – there should be no conflict of interest in accepting donor contributions

Concept of Essential Medicines

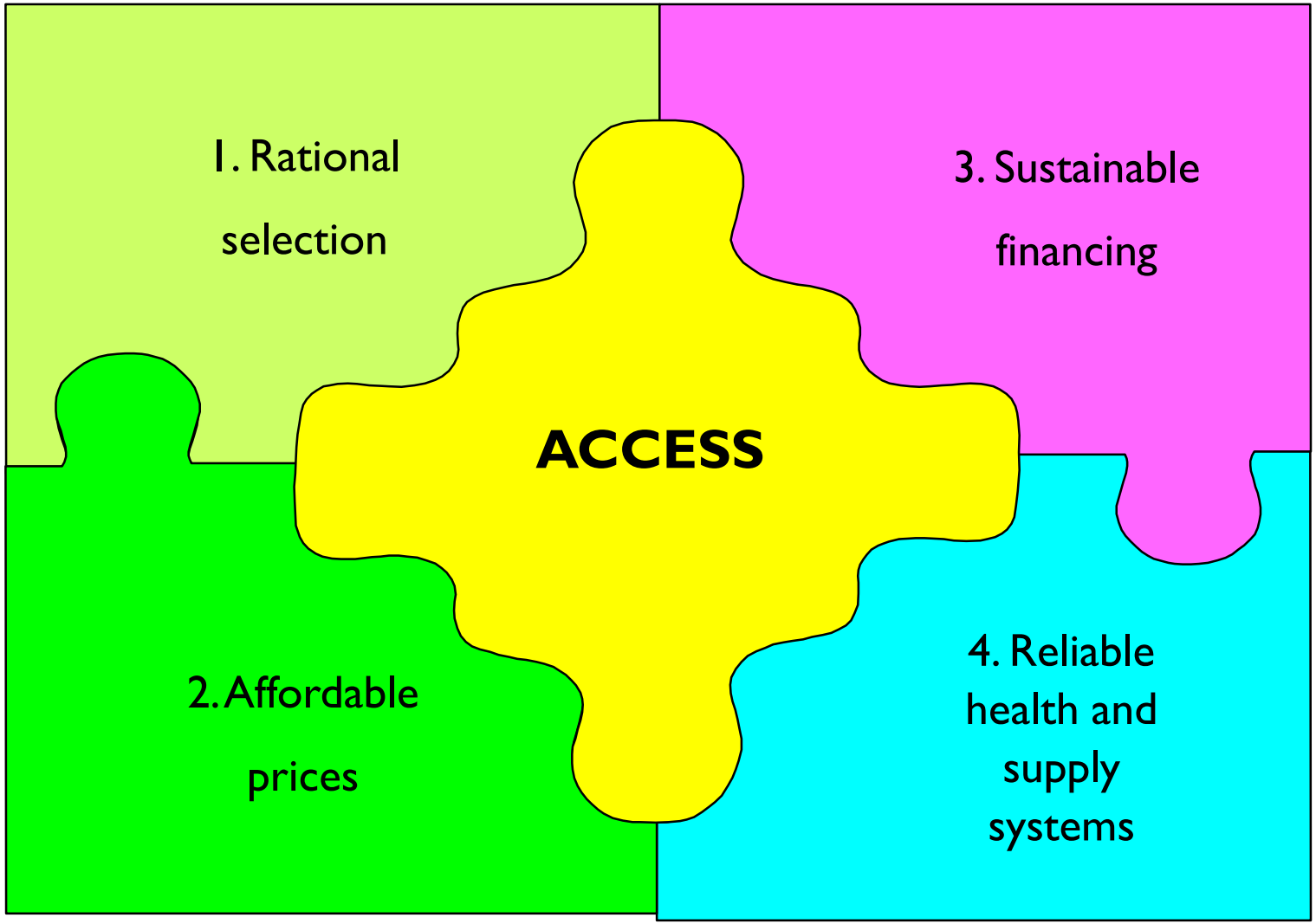
The Birth of Essential Medicine concept

- In 1975- WHO defined essential medicines
- In 1977-WHO published the first model list of essential drugs
  - List is revised every 2-3 years by WHO expert committee
- In 1978- historic goal of 'health for all by 2000';
  - Essential medicines were recognized as one of the eight elements of primary health care

Basic concept of Essential medicines

- Health is fundamental human right
- **Access** to health care, which includes **access to essential drugs**, is a prerequisite for realizing this fundamental right
- Four dimensions of access;
  - **Physical availability**
    - **type** and **quantity** of product or service needed and provide
  - **Affordability**
    - users ability to pay for the products/services
  - **Geographical accessibility**
    - location of the product/service and eventual user
  - **Acceptability (satisfaction)**
    - User attitudes and expectations

Essential medicine concept and its principles



Essential Medicine Concept and its principles

- **Concept**:
  - A limited range of carefully selected medicines leads to **better health care, better drug management and lower costs**
- **Principles**:
  - The vast majority of health problems can be treated with a small, carefully selected number of drugs
  - Most practitioners routinely use fewer than 200 drugs
  - Supply activities can be carried out most efficiently for a limited number of pharmaceutical products.
  - Patients can be better informed when confronted with limited drugs

Concept of Essential medicines

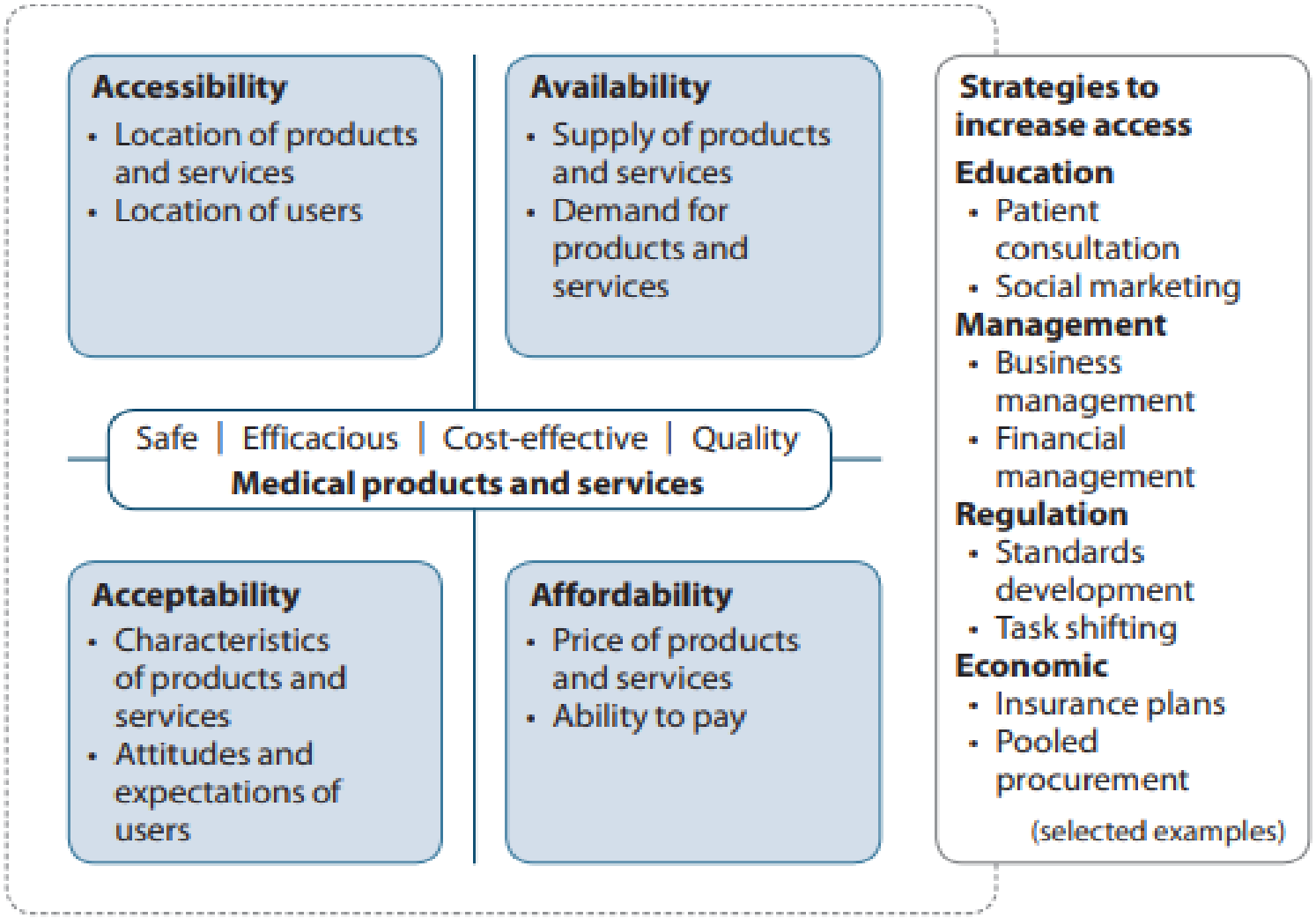


Figure: Increasing access framework

Concept of Essential medicines

- **Essential Medicines (EM) …WHO Definition**
  - Are medicines that satisfy the **priority healthcare needs of the majority of the population**
  - Should be **available** at all times, in adequate amounts, in **appropriate dosage forms,** and at a price the individual and the community can **afford.**
  - Selected with due regard to **public health relevance**, evidence on efficacy, safety, and comparative cost-effectiveness

Concepts of Essential medicines….

- A **limited** number of carefully **selected** drugs based on **agreed** clinical guidelines leads to more **rational prescribing**, to a **better** supply of drugs and to **lower** costs.
- It is a **global concept** that can be applied in any **country**, in the **private** and **public** sectors and at different **levels** of the health care system.
- It is accepted worldwide as a powerful tool to promote health equity and its impact is remarkable as the EMs are proved to be one of the most cost-effective elements in health care.
- The concept introduced by WHO in 1977

Concept of Essential medicines…

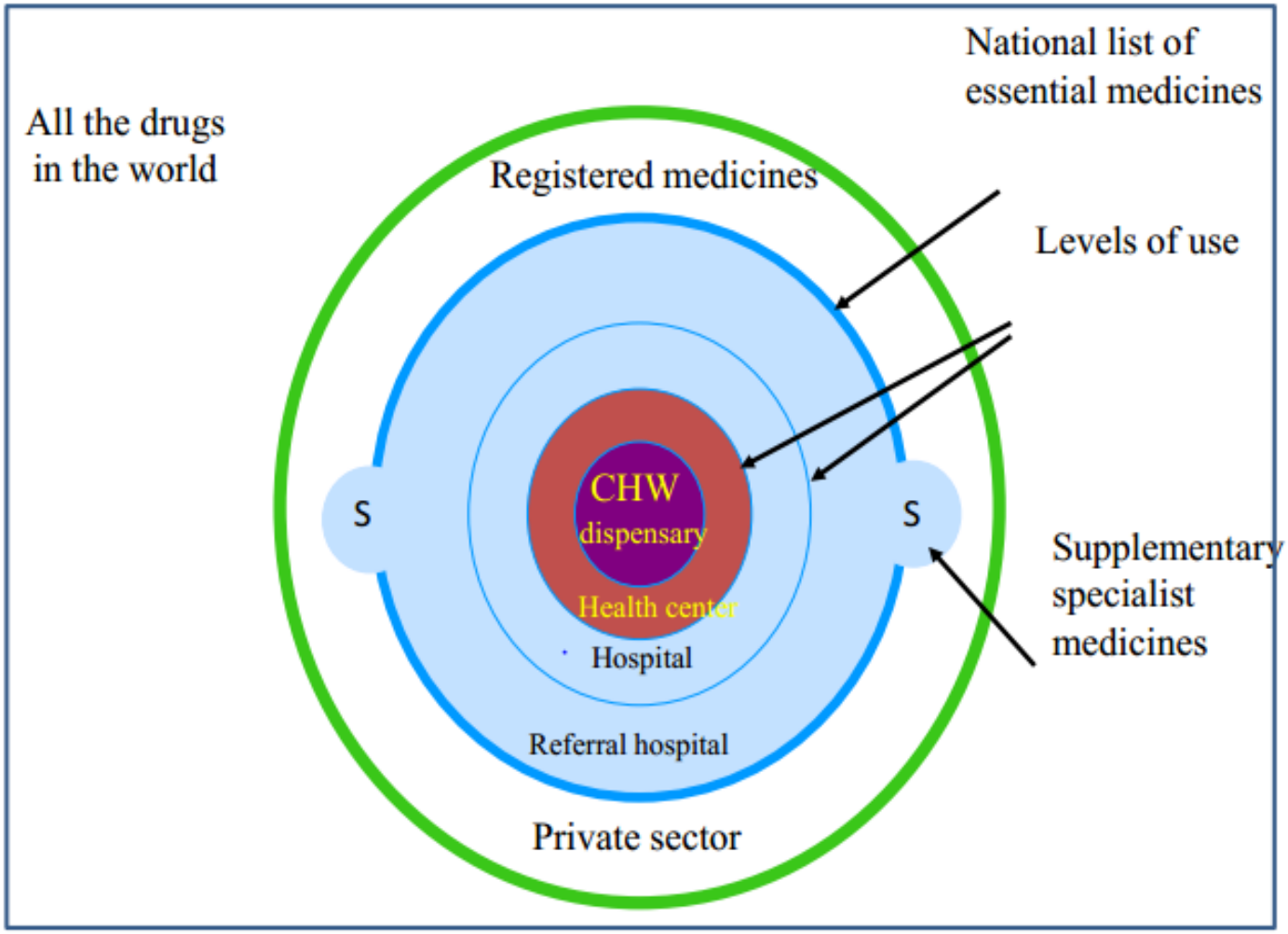
- Defining essential medicines has helped countries rationalize selection and procurement decisions;

  This process has also been a precursor to develop systems and policies to ensure regular access to medicines

Why be selective with drugs?

- Drugs represent a large part of the public health budget
- Funds are limited
- Large number of drugs are available
- Impossible to keep up to date with all the drugs on the market

The Essential Medicines Target



Advantages of limited list of EM

Major objective	Challenge
Supply	• Easier procurement, storage, and distribution • Lower stocks • Better quality assurance • Easier dispensing
Prescribing	• Training more focused and therefore simpler • More experience with fewer medicines • Nonavailability of irrational treatment alternatives • Reduction of antimicrobial resistance • Focused drug information • Better recognition of adverse drug reactions
Cost	• Lower prices, more competition
Patient use	• Focused education efforts • Reduced confusion and increased adherence to treatment • Improved medicine availability

Why Be Selective With Drugs?

- Drugs represent a large part of the public health budget
- Funds are limited
- Large numbers of drugs are available
- Impossible to keep up-to-date with all the drugs on the market

Reasons to Support Rational Selection

- Promotes improved drug availability
- Regular drug supply can improve health outcomes
- Prescribers can become familiar with a smaller number of drugs
- Improved drug therapy can lower health care costs
- Procurement, storage, and distribution are simplified
- Buying larger quantities of fewer drugs can lower procurement costs
- Facilitates drug information and education efforts

Criteria for Selection of EM

- For NEMs list to be credible and accepted, explicit criteria must be defined and published
- Final selection criteria should be based through discussion and acceptance by influential prescribers
- According to WHO, the choice of EM depends on many factors such as;
  - Pattern of prevalent diseases
  - Treatment facilities
  - Training and experience of available personnel
  - Financial resources

Criteria for Selection of EM…

- Genetic, demographic and environmental factor
- Medicines which have sound, adequate data on **efficacy** and **safety** (clinical studies, evidence from general setting)
- **Adequate** quality, including **bioavailability**, **stability** under anticipated conditions of storage and use

Criteria for Selection of EM…

- When two or more medicines appear to be similar in the above respects, the choice is made by carefully evaluating their **relative efficacy, safety, quality, price and availability**
- **Cost**
  - Consider the cost of the **total treatment** rather than the **unit cost** of the medicine
  - The basis of a cost-effectiveness analysis

Criteria for Selection of EM…

- **Other factors;**

  • **PK** properties, **availability of facilities for storage or manufacturers.**

- EM formulated as **single compounds**;

  – **fixed-ratio combination** products are acceptable only when;

  - **dosage** of each ingredient meets the requirements of a **defined population**
  - combination has **a proven advantage over single compounds**
  - Administered separately in ***therapeutic effect***, ***safety*** or ***compliance***

Formulary process

- **The formulary process**
  - Consists of **preparing**, **using** and **updating of;**
    - ***Formulary* list** or essential medicines list (EML)
    - **Formulary manual**
    - **Standard treatment guidelines (STGs)**
- **Formulary list/ EML/;**
  - Is a list of pharmaceutical products approved for use in specific health care setting
    - It may be national formulary list, provincial formulary list, Hospital list

Formulary Manual

- **Formulary Manual;**

  – It is the publication that brings all the important **summary information on medicines** in the formulary list together in a manual.

  – it is **drug centered**

  – Handy reference that contains selected information relevant to **prescriber**, **dispenser**, **nurse** or other health worker

- **Drug information included in a comprehensive formulary;**

  • **Introductory information**

    – Acknowledgment, List of approved abbreviation

    – Introduction (development of manual, intended user)

    – Formulary policies and procedures

Formulary Manual….

- ***Basic*** *information about each medicine*
  - Generic name
  - Dosage and strengths
  - Indications, CI and precautions
  - Side-effects
  - Dosage schedule
  - Instructions and warnings
  - Drug, food, laboratory interactions

Formulary Manual…

- ***Supplementary information for medicines includes;***
  - Price
  - Regulatory category
  - Storage guidelines
  - Patient counseling information
  - Labeling information
  - Brand names and synonyms

Formulary Manual….

- ***Prescribing and dispensing guidelines***
  - Rational prescribing techniques
  - Principles of prescription writing
  - Guidelines for quantities to be dispensed
  - Controlled drug requirements
  - Adverse drug reaction reporting requirements
  - Dispensing guidelines
  - List of precautionary labels
  - Common drug interaction tables

Standard Treatment Guidelines/STGs/

- **STGs:**
  - ✓ Also called **Treatment Protocol or Clinical Guideline**
  - ✓ **Systematically** developed statements that help practitioner or prescriber in deciding on appropriate treatments for specific clinical conditions.
  - ✓ It reflects **consensus on the optimal treatment option** within health facility or health system
  - ✓ It is **disease centered**
    - Common disease and complaints, treatment alternatives
    - STG exist for various **level** of health care
      - E.g Hospital, health center, region and nation

STGs…

- **Information on STG**
  - Diagnostic criteria
  - Treatment of first choice
  - Cost of treatment
  - Important CI, SE
  - Important drug information, warnings and precautions
  - Referral criteria
  - Index

Basic steps in establishing an STG

- Establish STG committee
- Develop comprehensive plan for development
- Identify diseases that the STG will cover
- Determine what information should be included in the STG
- Determine appropriate treatment options
- Draft the STG for comments and pilot testing
- Publication and dissemination
- Revisions and updates

Potential benefits of STGs

- **For health officials**
  - **Identify cost effective** treatments for common health problems
  - Provides a **bases** for assessing and comparing **quality** of care
  - Identifies most effective therapy in terms of quality
  - Helps to combats **AMR**
  - Provides **information** for **practitioner** to give to patients concerning the institutions **standards of care**
  - A vehicle for **integrating special programs**
    - Eg. *control of diarrheal disease, acute respiratory tract infection, TB, Malaria at the point of primary health care provider*

Potential benefits of STGs….

- **For supply management staff**

  – Identifies **which medicines** should be available for the most commonly treated problem

  – Facilitates **pre packaging** of course of therapy quantities of commonly prescribed items

  – Makes medicine **demand** more **predictable**, so forecasting is more reliable

Potential benefits of STGs…

- **For health care providers**
  - Provides expert consensus on most **effective**, **economical** treatment for **specific setting**
  - Gives the opportunity to **concentrate** on **correct diagnosis**
  - **Sets** a quality of care **standard**
  - Provide a **basis** for monitoring and supervision

Potential benefits of STGs…

- **For patients**
  - Encourage **adherence** to treatment through **consistency** among prescriber at all location within the health care system
  - Ensures most **cost effective** treatment are provided
  - Improves **availability** of medicines
  - improves **treatment** and **outcomes**

STGs….

- The **problems** associated with STGs include:
  - Development process
    - Difficult, time-consuming,
    - Requires human and financial resources
  - Need to **update regularly** to avoid STGs becoming obsolete
  - The danger of inaccurate or incomplete guideline
    - Providing wrong information to prescribers

2: Health Commodity Security

Chapter objectives

- At the end of this chapter students will able to;
  - Understand the concept of health commodity security and its framework
  - Define the term logistics
  - Understand the importance of logistics for all health programs
  - Understand the purpose of logistics system
  - Identify components of logistics system
  - Define key logistics terms

Commodity Security Concepts and its Frameworks

- Availability and access to high-quality, affordable health commodities are fundamental to achieving Universal Health Coverage (UHC)
  - Making strides in the 2030 Agenda for Sustainable Development.
- ***The Public Health Challenge: Why Access to Medicines Is Important?***

Defining Commodity Security Concepts…

- Strategic approaches to ensure access to essential health commodities was a direct response to the impact of medicines on public health
- WHO has developed and supports the concept of essential medicines (EM):
  - Includes pharmaceutical ***products that address the priority health care needs of the greatest number of people*** in a given country

Commodity Security Concepts…

- WHO implements EM concept with a model EM list and through the support of country specific lists and a medicines access strategy
- The development of commodity security and medicines access frameworks is recognizing how important it is to ensure regular access to essential health commodities
- Achieving access to essential medicines is also defined by the concept of commodity security

Commodity Security Concepts…

- Common to each is a shared understanding of how a holistic model that includes;
  - The supply chain,
  - Policies for medicines,
  - Service delivery,
  - The pricing environment,
  - Intellectual property issues, and
  - Health financing
    - All affect the access to and the availability of medicines.

Commodity Security Concepts…

- **Commodity Security (CS)**
  - Described as the ability of clients or end users to **obtain and use health commodities when and where they need them**
- **Health CS**
  - Said to exist if all health facilities have **the ability to choose, obtain and use the needed health commodities at all times**
  - When there is the ***continuous, uninterrupted supply of quality-assured health commodities to users, clients and customers*** whenever and wherever these commodities are needed

Commodity Security Concepts…

- CS for any health product requires;
  - Adequate financing, logistics systems
  - Program coordination, and
  - Other factors that make up the enabling environment that supports access and use

Reproductive Health Commodity Security (RHCS)

- **RHCS**
  - **Objective:** People are able to choose, obtain, and use the reproductive health supplies they want
  - It is a broader variation of CS
  - Exists when every person is able to **choose, obtain**, and **use** quality contraceptives, and other essential reproductive health products whenever s/he needs them.
  - It includes contraceptives in its definition, as well as other essential commodities for reproductive health, such as:
    - Medicines for maternal and perinatal use,
    - Products to prevent and treat sexually transmitted infections , and
    - Supplies for safe delivery

Reproductive Health Commodity Security

- Reliable commodity supply is also a critical driver of reproductive and sexual health
- RHCS exists when a secure supply of affordable, varied, and quality reproductive health commodities is available to fill the demand.
- RHCS framework,
  - First published in 2004,
  - Describes the elements that are involved in securing Reproductive Health (RH) supplies
  - At the center of the framework is the client-the ultimate beneficiary of RHCS

RHCS….

- In every country or region, there is a context that both affects and is affected by RHCS
  - Made up of national policies and regulations that directly or indirectly affect access to contraceptives and RH commodities
  - The context also includes socioeconomic conditions, political and religious norms, and competing national priorities that may be beyond the sphere of influence of RH stakeholders
  - Within this context, the policymakers and public and private health care workers commitment to policies, programs, and systems is fundamental to ensure ownership and sustainability
  - It forms the basis from which stakeholders (government, donors, and consumers) will invest the necessary capital to procure supplies and finance the necessary distribution and health service systems for RHCS

RHCS….

- Due to the variety of important stakeholders in RHCS including;
  - Government, donors, and the private sector interagency coordination is required
    - To ensure the effective allocation of resources, strategy development, and joint programming.
- Capacities must exist for a range of functions
  - Policy development and implementation;
  - Commodity forecasting and procurement, and
  - Distribution; and service delivery; and
  - Monitoring and evaluating progress
  -

Components of RHCS Framework

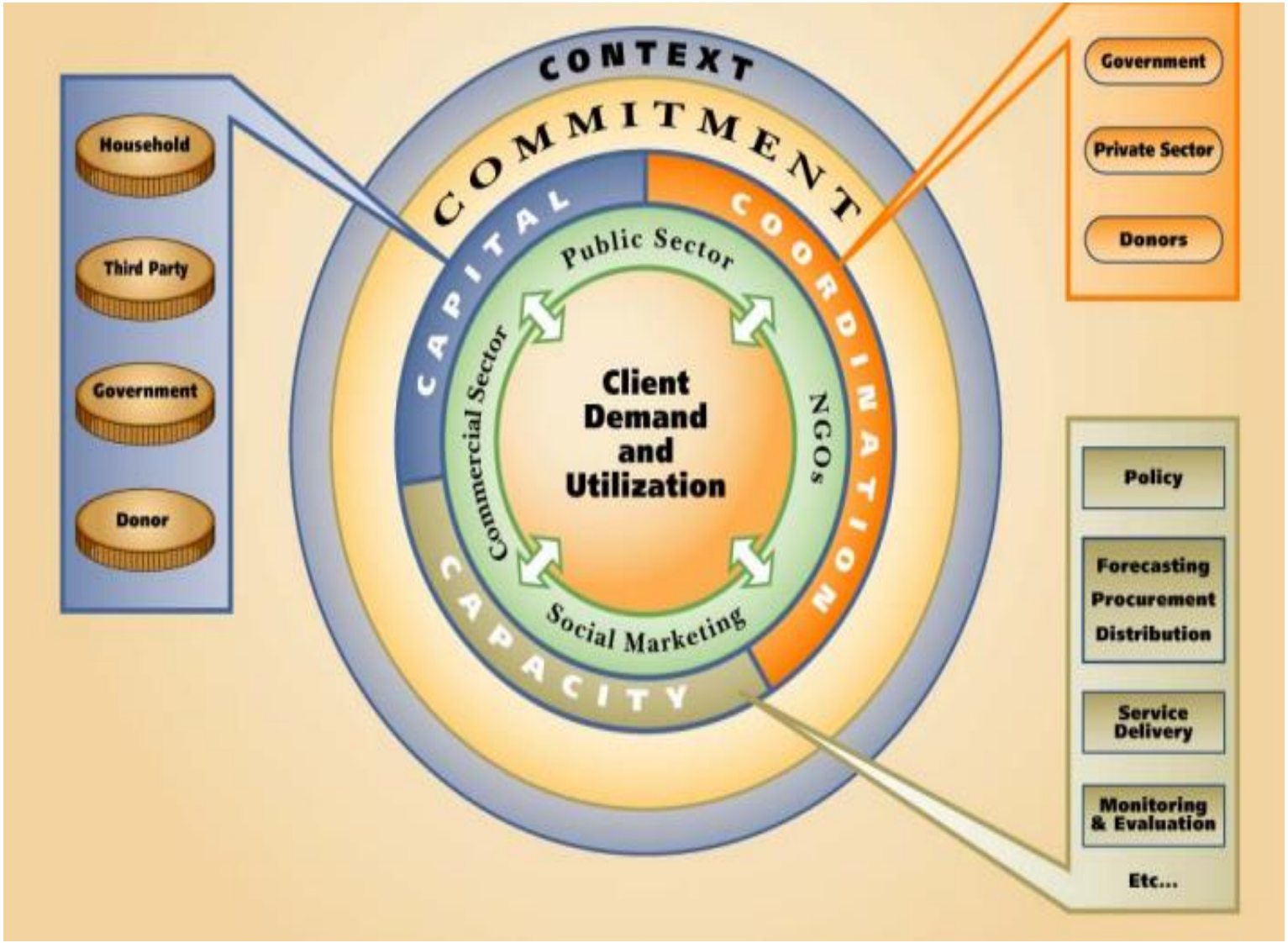


Figure : Commodity Security Framework

Components of RHCS Framework

- Capital, coordination, and capacities are the basis for the public and private RH supply channels
  - To efficiently meet the needs of the total market of client demand from those who need subsidized products to those who are able to pay

Strategic Contraceptive Security

- **Strategic Areas:**
  I. Policy, financing and sustainability
  II. Supply
  III. Demand
  IV. Logistics and management information system
  V. Partnership, coordination, monitoring and evaluation

HIV/AIDS Commodity Security

- **Definition and objective:**
  - When patients and service providers can choose, obtain, and use medicines and other health commodities when and where they need them for prevention, treatment, and care of HIV/AIDS and related illnesses
  - To improve routine availability and to help rationalize the selection and use of essential health products for HIV prevention, treatment, and care.

HIV/AIDS Commodity Security…

- The framework suggests that ensuring CS for the different categories of HIV commodities requires a comprehensive, multi-programmatic effort. These programs require;
  - Antiretroviral (ARV) drugs;
  - Drugs to treat OIs;
  - HIV test kits;
  - Laboratory reagents;
  - Medical consumables, such as syringes and gloves; and
  - information, education, and communication (IEC) materials to support adherence and increase uptake.

HIV/AIDS Commodity Security…

- The framework also identifies functions, including;
  - **Logistics** and **service delivery** that are needed to make these programs work
  - It emphasizes that cross-cutting issues exist at every level of the programs
  - Functions, including leadership, human resources, financing, and the quality of products and services at all levels

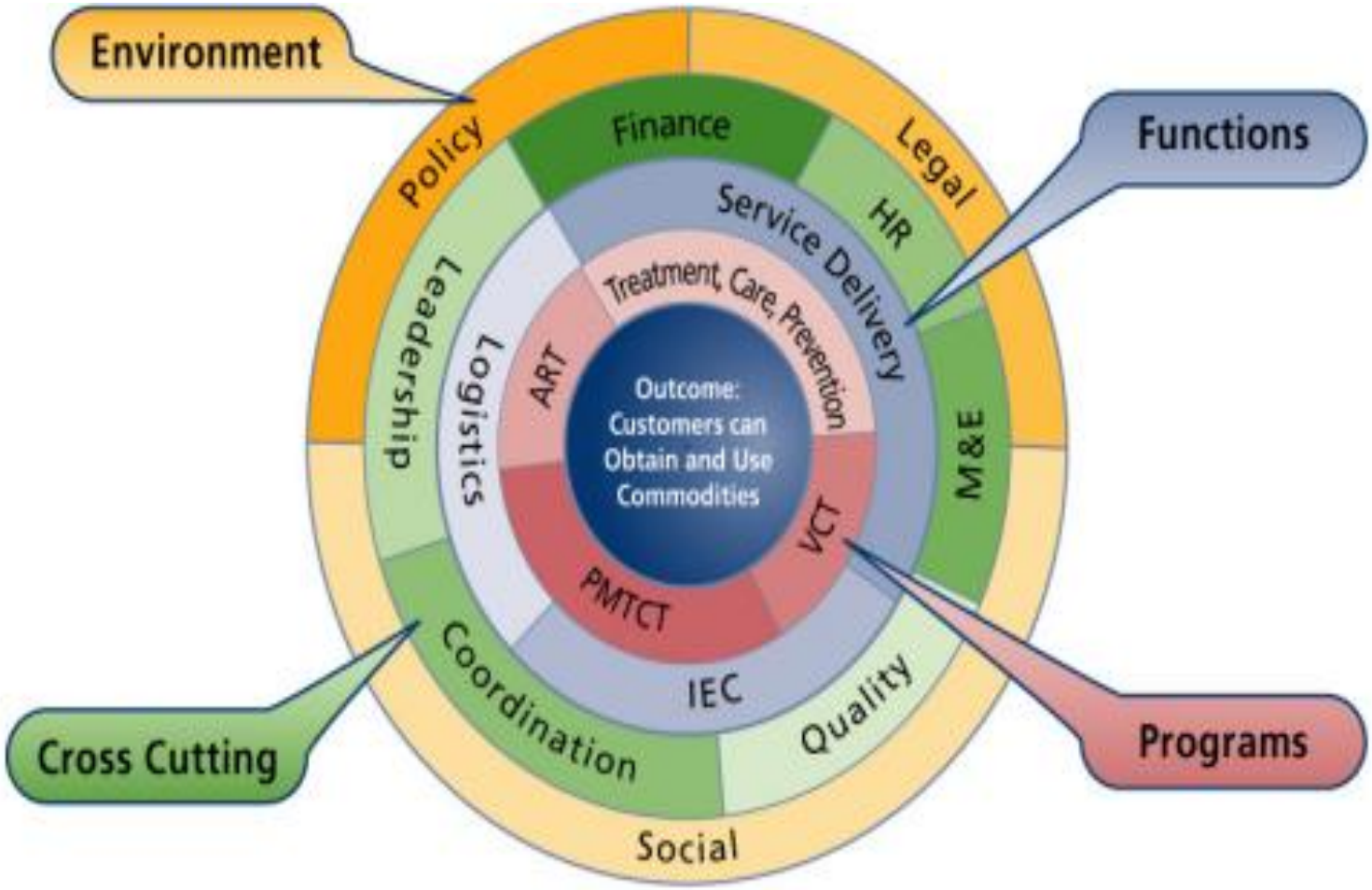
HIV/ AIDS Commodity Security Framework…

- HIV/AIDS Commodity Security (HACS) framework
  - It was adapted from the RHCS framework
  - It shares much of the same conceptual underpinning.
  - The ability of customers to obtain and use commodities is also at the center of the framework

HIV/ AIDS Commodity Security Framework…

- The framework also identifies functions, including;
  - **Logistics** and **service delivery** that are needed to make these programs work
  - It emphasizes that cross-cutting issues exist at every level of the programs
  - Functions, including leadership, human resources, financing, and the quality of products and services at all levels

HIV/ AIDS Commodity Security Framework



INTEGRATED APPROACH TO COMMODITY SECURITY

- To take an integrated approach to CS for all essential medicines requires a substantially greater level of program coordination, collaboration, and political will
- Integration of CS approaches is not all or none.
- CS comprises many component:
  - Logistics and the supply chain
  - Policies and financing,
  - Service delivery, and several other functions
    - Integrating one or a few of these components can help support improved availability for essential medicines

INTEGRATED APPROACH TO CS…

- Each concept is based on an expansive strategic framework that describes the various systems, programs, financing requirements, policies, and contextual environments that need to be in place to strengthen CS for the specific categories of medicines
  - **For example**: a common approach is the idea that well functioning distribution systems or sufficient commodity financing cannot, alone, ensure CS without the adequate functioning of other components
    - (e.g., service delivery, supportive policies, and adequate human resources)

Introduction to logistics

- Over time, the profession of supply chain management has evolved to meet the changing needs of the global supply chain
- **Definition of Supply Chain Management**
  - **According to the Council of Supply Chain Management Professionals (CSCMP):**
    - "Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement…and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies."

Introduction to logistics…

- CSCMP also defines logistics management as:
  - *"**Part of supply chain management** that plans, implements, and controls the efficient, effective forward and reverses flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirement…*
  - *Logistics management is an integrating function, which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions including marketing, sales manufacturing, finance, and information technology."*

Introduction to logistics…

- SCM deals with logistics activities plus the coordination and collaboration of staff, levels, and functions
- Logistics activities as the operational component of supply chain management, including;
  - Quantification and procurement
  - Inventory management
  - Transportation and fleet management, and
  - Data collection and reporting

Introduction to logistics…

- Supply chain management includes the logistics activities plus the coordination and collaboration of staff, levels, and functions
- The supply chain includes global manufacturers and supply and demand dynamics, but logistics tends to focus more on specific tasks within a particular program health system

Why Logistics Matter?

- The goal of a health logistics system is much larger than simply making sure a product gets where it needs to go.
  - Ultimately, the goal of every public health logistics system is to help ensure that every customer has commodity security
- CS exists when every person is able to obtain and use quality essential health supplies whenever he or she needs them.
- A properly functioning supply chain is a critical part of ensuring CS: financing, policies, and commitment are also necessary.
- Effective supply chains not only help ensure CS, they also help determine the success or failure of any public health program

The purpose of logistics system

- Well-functioning supply chains benefit public health programs in important ways by:
  - **Increasing program impact : No product, No program**
    - Health programs cannot succeed unless the supply chain delivers a reliable, continuous supply of health commodities to its customers.
  - **Enhancing quality of care**
  - **Improving cost effectiveness and efficiency**
    - Reduces losses due to overstock, waste, expiry, damage, pilferage, and inefficiency;
    - Protects other major program investments; and
    - Maximizes the potential for cost recovery

Logistics System : Major activities of the logistics System

- ***What expectations do you have when you go out to a restaurant for a meal?***

You may expect that the

- Restaurant will be attractive and pleasing
- Server will provide excellent customer service
- Food you order will be available
- Food will be served promptly
- Correct order will be delivered to your table
- Food will be of acceptable quality
- Food will be of acceptable quantity
- Cost of the meal will correspond to the value.

Major activities of the logistics System…

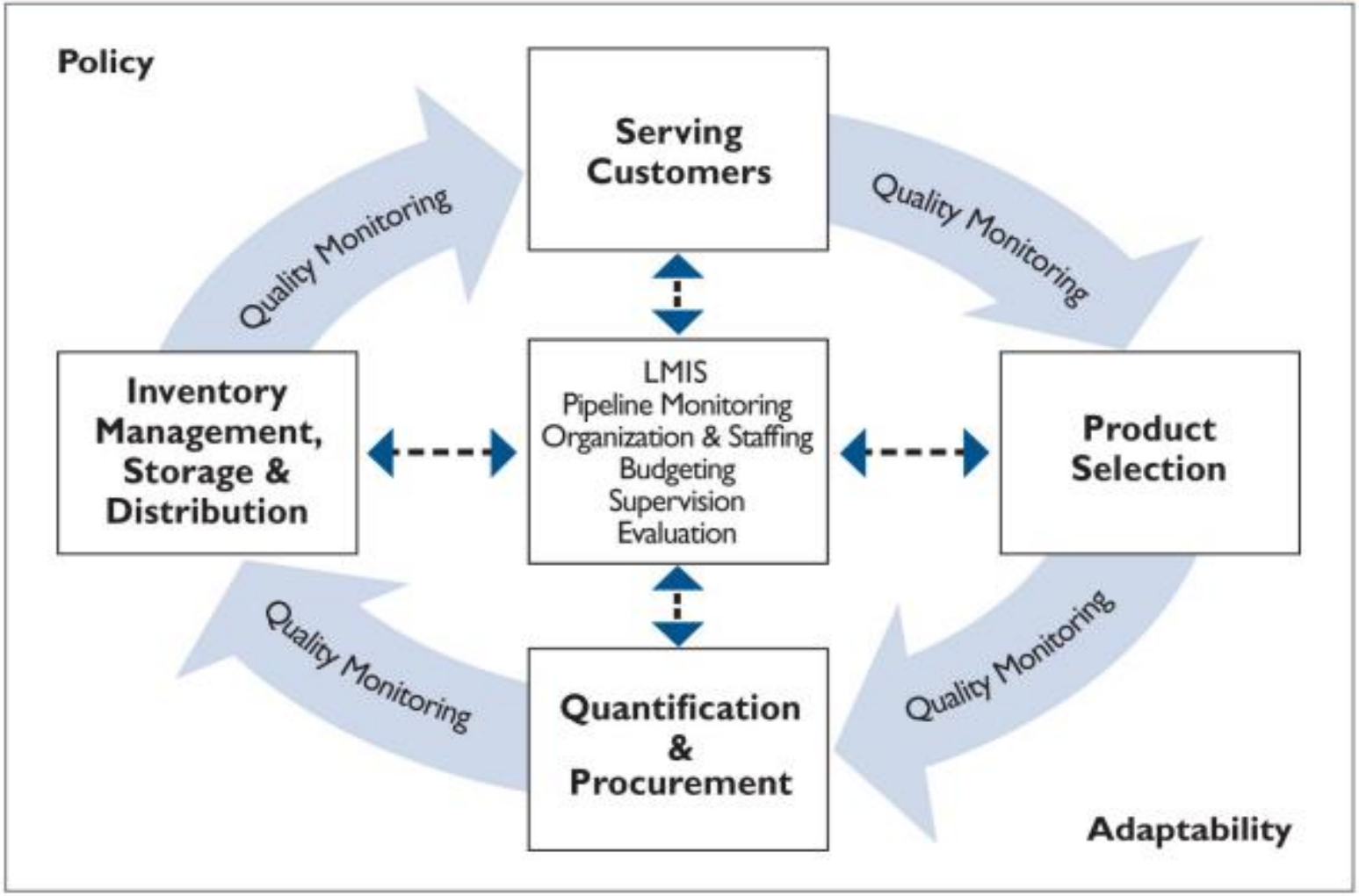
- These customer expectations define the purpose of a logistics system
  - It ensures that the **right goods,** in the **right quantities**, in the **right condition**, are delivered to the **right place**, at the **right time,** for the **right cost**.
    - In logistics, these rights are called the **six rights (6Rs).**

Major activities of the logistics System…

- Major activities in the logistics cycle:
  - Serving Customers
  - Product Selection
  - Quantification
  - Procurement
  - Inventory Management: Storage and Distribution

Logistics Cycle: Components of a logistics cycle

Figure 1-2:The Logistics Cycle



Logistics Cycle:

- The activities in the center of the logistics cycle represent the management support functions that inform and impact the other elements around the logistics cycle.
- **Heart of the logistics system**
  - **Information** is the engine that drives the logistics cycle
  - Without information, the logistics system would not run smoothly
    - Logistics management information systems (LMIS)
- **Other activities at the heart of the logistics cycle**
  - Organization and staffing
  - Budget
  - Supervision
  - Monitoring and evaluation

Key logistics terms

- **Supplies, commodities, goods, materials, products, and stock**:
  - These items flow through a logistics system
- **Users:**
  - **It** is familiar to anyone who collects information about new or continuing users, such as in family planning programs.
  - Users can also refer to people who use a product that is not given to a client or patient but is used for them
- **Clients:**
  - Usually refers to someone who receives a treatment or service
- **Patients:** a term often associated with clinic patients receiving treatment for an illness

Key logistics terms…

- **Customers:**
  - It is a term typically used by the private sector; it helps reinforce the concept of customer service.
  - In public health programs, all users, clients, and patients are considered to be customers in the same way a commercial business thinks of its customers: the service provider, health center, and laboratory are there to serve the customer.

Key logistics terms…

- **Service delivery point**
  - Any facility where users receive supplies related to health services
  - Service delivery points (SDPs) are usually hospitals and health centers, but may also include mobile units, community-based distributors, laboratories, and health posts.
    - These facilities are called SDPs because services are provided and products are used or dispensed at these locations

Key logistics terms…

- **Pipeline:**
  - The entire chain of physical storage facilities and transportation links through which supplies move from the manufacturer to the user, including;
    - Port facilities, central warehouse, regional warehouses, district warehouses, all SDPs, and transport vehicles, including community-based distribution networks.

Key logistics terms…

- **Lead time:**
  - The time between when new stock is ordered and when it is received and available for use
  - When logistics managers evaluate how well a logistics system is meeting the six rights, they measure the lead time and try to reduce it.
  - Goods should be available to customers at the right time- before the customer asks for the product

Key logistics terms…

- **Allocation (push) versus requisition (pull)**
  - **Pull or requisition system:** Quantity to be resupplied is calculated by the person placing the order.
    - In a requisition system, the person who receives the supplies calculates the quantities of supplies required
  - Allocation (push) system: the quantity to be resupplied is determined by the person who fulfills the order
    - In an allocation system, the person who issues the supplies calculates the quantities of supplies required

Advantages and disadvantages of allocation and requisition systems

SYSTEM ACTIVITIES	ALLOCATION (PUSH) SYSTEM	REQUISITION (PULL) SYSTEM
Computing calculations	Advantage: The higher level is confident of its own calculations and the quantities it issues. Disadvantage: The higher level must calculate all orders.	Disadvantage: The lower level must be able to do calculations, and the upper level may still need to verify them.
Using information	Disadvantage: The information that the higher level uses to make calculations may not be as current.	Advantage: In a manual system, the lower level has the most current information.
	Note: Neither system works when information is not available to decision makers. Ideally, all levels should use the same data for decisionmaking; however, the most current data is not always simultaneously visible to different levels.	
System responsiveness	Disadvantage: The higher level may not be able to respond as quickly to changes.	Advantage: The lower level has the most up-to-date information and may be able to anticipate upcoming needs.
Training needs	Advantage: Fewer people need to be trained to calculate resupply quantities.	Disadvantage: Lower levels may not have the skills needed to calculate resupply quantities.
Staff sense of ownership	Advantage: Managers feel they have more control over the system.	Advantage: Lower level owns its decisions about orders and, therefore, assumes that it has more control over the system.
Staff workload	Disadvantage: In large systems, the higher level may need to make large numbers of calculations; it must calculate all the orders for lower-level facilities.	Disadvantage: The lower level must allocate time to make calculations, instead of serving customers.

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